AWS Certified CloudOps Engineer - Associate Cheat Sheet

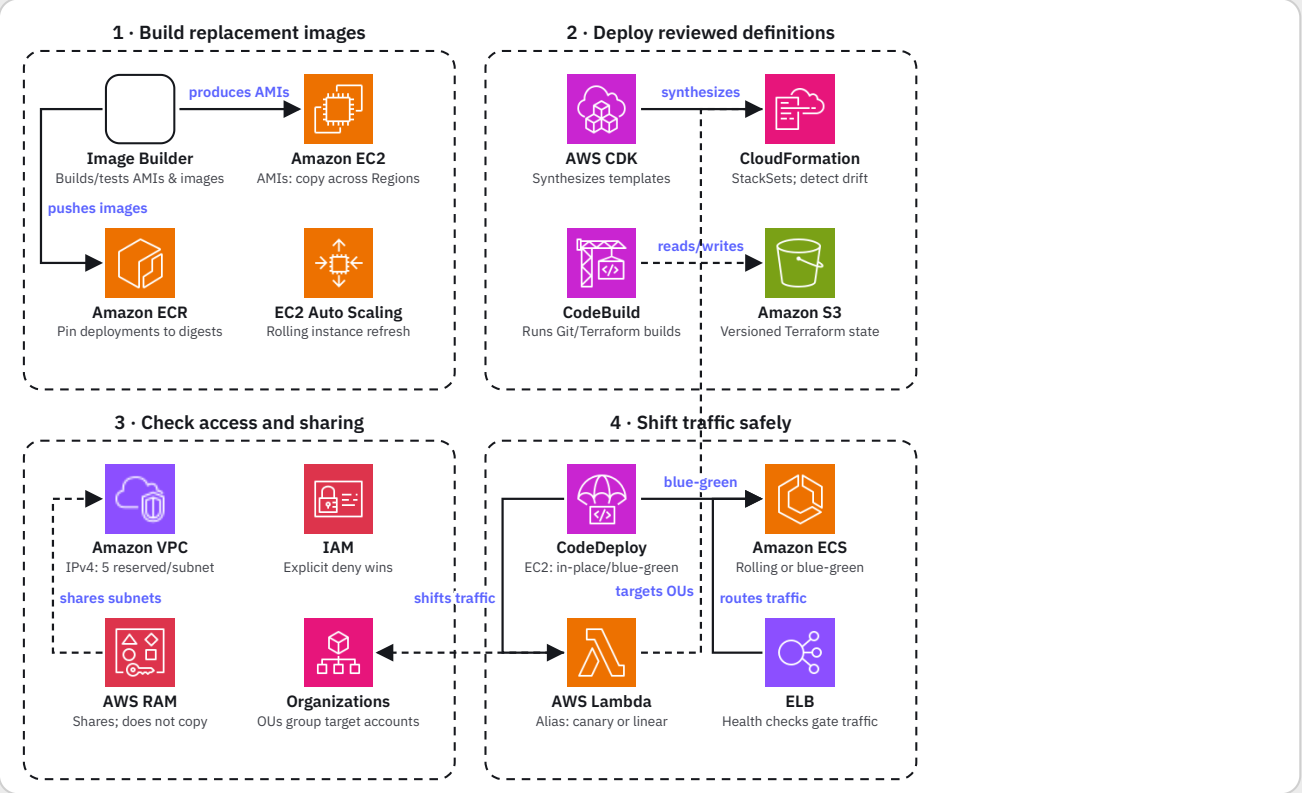
SOA-C03 · Domain 3 of 5

BlowStack

DOMAIN 3 · DEPLOYMENT, PROVISIONING, AND AUTOMATION · 22% OF THE EXAM · TASK STATEMENT 3.1

Provision and maintain cloud resources

Build, provision, share, deploy



1 Build replacement images

Use **immutable infrastructure**: rebuild tested images, then replace workloads. Image Builder schedules builds, not updates to running instances. Copy AMIs across Regions; share launch permissions across accounts.

2 Deploy reviewed definitions

Use **StackSets** for stacks across accounts/Regions; service-managed permissions support OU auto-deployment. CDK synthesizes CloudFormation. Git tracks IaC revisions; Terraform state in S3 needs restricted access.

3 Check access and sharing

For **deployment failures**, inspect stack events, free subnet IPs, Service Quotas, and effective permissions. RAM shares supported resources, not copies; a shared subnet stays in its owner's Region.

4 Shift traffic safely

Use **blue-green** for a replacement environment; CodeDeploy supports ECS blue-green. Lambda canary shifts a small share first; linear shifts equal increments. Rolling replacement needs capacity and healthy targets.

Exam traps

- **Drift detection** reports supported differences; it does not repair them. Change sets preview changes, not deployment success; stack events identify the failed resource and reason.
- **An Allow is not enough**: SCPs and permissions boundaries limit permissions; they do not grant them. Cross-account role assumption needs caller permission and a matching role trust policy.
- **Blue-green is not canary**: blue-green describes parallel environments; canary describes traffic increments. CodeDeploy alarm-based automatic rollback must be configured.

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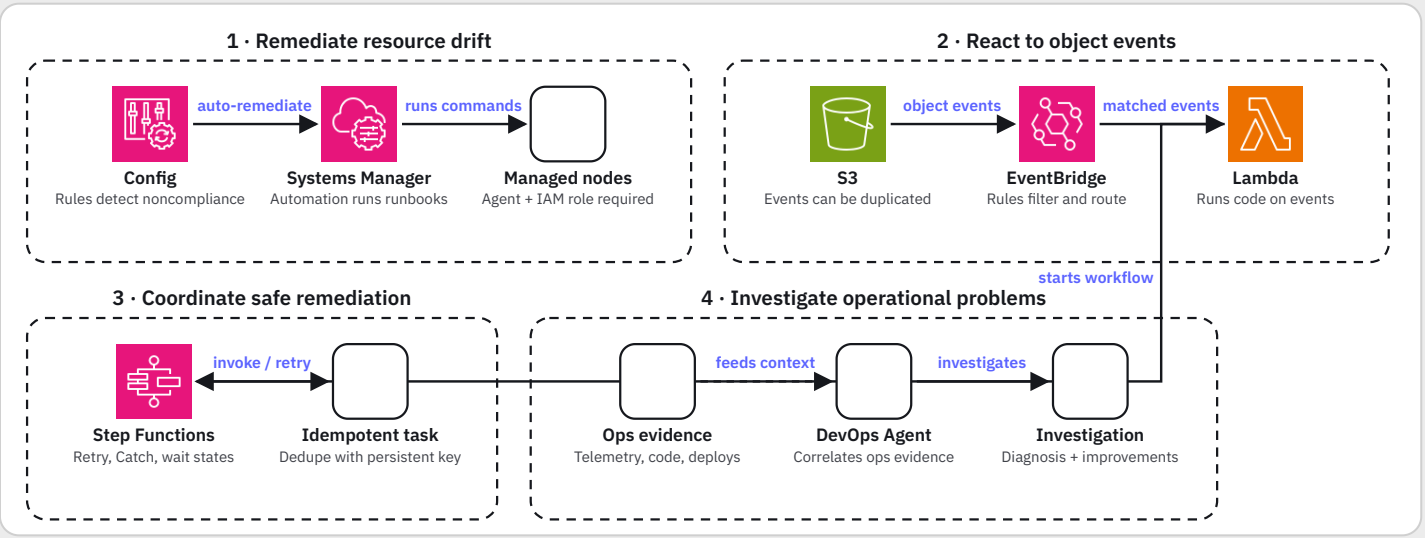
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DOMAIN 3 · DEPLOYMENT, PROVISIONING, AND AUTOMATION · TASK STATEMENT 3.2

Automate the management of existing resources

Detect, remediate, route, investigate



1 Remediate resource drift

Use **Automation** for multi-step runbooks; Run Command runs fleet commands, State Manager maintains desired state, and Patch Manager patches nodes. Config auto-remediation requires a configured action.

2 React to object events

Use **EventBridge** for filtered routing and fan-out; enable EventBridge delivery on the S3 bucket. Direct S3 Event Notifications can invoke Lambda without an event bus.

3 Coordinate safe remediation

Use **Step Functions** for stateful, multi-step remediation with Retry/Catch. Side effects need idempotency, such as a persistent event key and conditional write; retries alone do not prevent duplicates.

4 Investigate operational problems

Use **AWS DevOps Agent** for evidence-driven investigations, on-demand or scheduled SRE tasks, and resilience assessments. Defined remediation sequences belong in runbooks or workflows.

Exam traps

- AWS Config **detects noncompliance**; a rule alone does not repair resources. Automatic remediation requires a configured remediation action, commonly a Systems Manager Automation runbook.
- S3 notifications are **at least once**, not exactly once or globally ordered. Retried or duplicate events require idempotent handlers; blind retries can repeat destructive remediation.
- Lambda has a **15-minute timeout** per invocation. Step Functions coordinates longer, stateful workflows; an EventBridge routing rule does not provide multi-step workflow state.

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DOMAIN 3 · DEPLOYMENT, PROVISIONING, AND AUTOMATION · WHAT TO REMEMBER

Concepts and services of Deployment, Provisioning, and Automation

Concepts to know

Infrastructure as code (IaC)

Infrastructure definitions make provisioning repeatable and reviewable. Choose **version-controlled templates or code** for consistent deployments across environments rather than manual console changes.

Blue-Green Deployment

Separate current and replacement environments allow validation before **switching production traffic**. Choose it for rapid cutover and rollback; database and dependency compatibility still determine whether rollback is safe.

Idempotency

Repeated execution produces the same intended outcome without duplicate effects. Use **duplicate detection or state checks** when events can arrive more than once or automation can retry after partial failure.

Core services



AWS CloudFormation

Use **StackSets** to deploy stacks across accounts and Regions, change sets to preview updates, and drift detection to identify supported resource differences; drift detection does not remediate them.



AWS Systems Manager

Choose **Automation runbooks** for multistep operational remediation, Run Command for commands on managed nodes, and State Manager associations to maintain desired node configuration.



AWS CodeDeploy

Choose **blue-green deployments** for traffic cutover to replacements; EC2 also supports in-place updates. Lambda and ECS blue-green deployments support canary or linear traffic shifting.

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